JPRS 74442 24 October 1979

# Worldwide Report

**EPIDEMIOLOGY** 

No. 161



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#### 24 October 1979

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### EPIDEMIOLOGY

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BANGLADESH

#### BRIEFS

CHOLERA DEATHS--Reports received in Dacca said that 113 persons died of cholera in different parts of the country. In Sylhet alone 108 persons were suffering from this disease and 22 persons died in Mymensingh district.

[Dacca SANGBAD in Bengali 2 Oct 79 p 1 BK]

#### ABSOLUTE CURE FOR CHAGAS DISEASE CLAIMED

Caracas EL UNIVERSAL in Spanish 7 Sep 79 p 1-30

[Excerpts] The absolute cure of a high percentage of Chagas disease patients has been achieved by a qualified group of doctors from the National Center for Tropical Diseases of Bolivia.

The subject was discussed during a meeting presided over by Dr Carlos Velasquez of Paraguay, along with Drs Alfredo Romero Davalos, Bolivia, and Juan Jose Puigbe, Venezuela.

Dr Romero Davalos spoke on the topic of "Acute Chagas Disease, Epidemiology and Cardiovascular Manifestations," presenting the results of an experiment conducted in Santa Cruz Department by a study group from the National Center for Tropical Diseases of Bolivia, on a sampling of 86 acute cases of Chagas disease encountered during an active investigation. These cases were studied epidemiologically.

Some 32 percent of the patients had cardiac lesions, usually of moderate size. Only three patients had cardiac insufficiency, one of whom had died.

He said that the good results obtained in the cases was influenced by the early treatment they received. Clinical and laboratory cures were observed in approximately 90 percent of the patients, who produced negative readings even in their serological laboratory tests.

He stressed the need for defining criteria for an active search for acute cases which, with the specific procedures, can be treated with good results, with absolute cures in a high percentage of cases, through an immediate and midterm change in the development of this disease.

8143

#### REAPPEARANCE OF CHOLERA REPORTED

Bujumbura LE RENOUVEAU DU BURUNDI in French 4 Sep 79 p 3

[Text] In the last few days several cases of cholera have been recorded at the Bujumbura cholera treatment center. Although it was previously believed to be dying out, the epidemic has flared up again. Between 1 August 1979 and today sporadic cases have been detected in certain parts of the capital, notably in Kamenge and Kinama. In all [?47] cases were treated and cured during the month of August.

There were other additional cases, but the patients were discharged quickly, after treatment. On Monday, August [date missing] only three cases remained at the treatment center. Thus, the situation is far from alarming. However, if we wish to combat this epidemic we must follow the advice broadcast by the Epidemiology Department on the "Voice of the Revolution."

8946

#### CASES OF INFECTIOUS HEPATITIS CONTINUE TO APPEAR

Prague RUDE PRAVO in Czech 24 Sep 79 p 2

/Interview with Dr. Dana Zuzkova, chief hygienist of the Czech Socialist Republic by Eva Sadilkova/

/Text/ During the summer months, areas of our republic were stricken by an epidemic of infectious hepatitis. Many citizens are writing and calling us to inquire about the current situation. We therefore visited Dr. Dana Zuzkova, chief hygienist of the Czech Socialist Republic /CSR/

/Question 7 What is the situation with respect of infectious hepatitis?

/Answer/ Although the epidemic proper which had broken out in several localities of five CSR krajs is over, we are currently in a period of so-called contact cases of infectious hepatitis. This means that persons who had come into contact with victims of infectious hepatitis, may also be afflicted by the disease. In addition, not all of these cases necessarily carry the typical clinical symptoms. The disease progresses without outwardly affecting these people but the infectiousness is preserved. Since the disease actually breaks out only following an incubation period of between 15 and 50 days after infection, we are still registering such cases, especially in the localities most affected by the epidemic.

Because of the high rate of travel during the period of school recess and vacations, the infection has been carried to other areas as well. I cannot therefore claim that the situation has been entirely normalized, but it no longer has epidemic character. On the other hand, I should note that we have been expecting such a development from the very outset, since this is the way infectious hepatitis spreads whereever it appears in the world. Due to the transmission of the disease through contact, it is of utmost importance that all basic principles of personal hygiene be strictly and consistently observed, especially in schools and children's collectives, in food production and distribution enterprises, all public eating places and, of course, in the homes. All efforts by health care personnel alone would not be sufficient.

/Question? For health care workers this summer has been a period of supreme effort, selflessness, and exhausting labor. What, in these workers' opinion, is needed in the struggle against infectious hepatitis?

/Answer7 The struggle gainst the epidemic has brought, and still requires, truly back-breaking and exhausting efforts for tens of thousands of health care workers, without regard to working hours, Saturdays and Sundays, not to mention vacations. Thanks to the timely, comprehensive, and coordinated measures, we have succeeded in preventing the spread of the epidemic proper into additional areas.

In comparison with the average, we are facing the need for a vast number of blood tests with accompanying laboratory work, the necessary health care equipment, and overall care for each and every patient. We try to adopt such effective measures as sold not neeclessly disrupt normal life and, naturally, the effectiveness of other health care sectors. We have done all that was needed to prevent the spreading of the disease in the hops and potato-picking brigades, to reduce the number of cases in schools, etc.

The effort of the health care workers does not stand alone behind all this. Workers of other departments have made their contribution toward the positive results. The increased need for disinfectants, for example, was met by workers of the CSR Ministry of Industry who worked Saturdays and Sundays. The positive achievements in the hops brigades is the result of cooperation with the Ministry of Agriculture and Food, the CSR Ministry of Education, and other organizations.

/Question? How will you proceed from here? What are the necessary measures?

/Answer7 The effort of health care organs and workers is focused, above all, on the registration of everyone, especially children, who had contact with patients in areas where the disease still appears. This means their regular examinations, including necessary blood tests, in order to isolate in timely fashion those cases where the disease is progressing with minimal symptoms, or without them altogether, and to treat the afflicted appropriately. Children who have come into contact with patients, will be given gamaglobulin, one of the auxiliary measures which, while not actually preventing the spread of the infection, can nevertheless influence the progress of the disease in individual cases.

In addition, we are setting up special counseling sites which will have a long-range program of care for all those who have had infectious hepatitis. This is intended to prevent unnecessary health damage later. We have also broadened sanitary monitoring measures in the food industry, especially in the dairy, meat, and non-alcoholic beverages enterprises, as well as throughout the mechanisms which supply the population with drinking water.

/Question/ In which areas is infectious hepatitis still found?

/Answer/ Practically speaking, infectious hepatitis is found every year throughout the republic. Its incidence, however, is normally sporadic, three to four cases in one okres per week. Following the July epidemic, on the other hand, the incidence of the disease is higher, especially in the Chomutov, Most, Louny, Jihlava, Svitavy, and Sumpert areas, as it is even in some other okreses for reasons I have already mentioned.

/Question/ How can citizens, acting in the interest of protecting their health, help you, the health care workers?

/Answer I consider the public contribution the most important factor in the interest of liquidating the infection. Experience of the past weeks has truly demonstrated that, but for the help given by the public-and despite all efforts by the health care workers, the checking and control of the epidemic and its consequences would have taken much longer. We have to bear in mind, however, that the effort to arrest contact transmission of the disease has thus far been a matter of but a few weeks. We therefore again request that citizens strictly observe all measures introduced by the hygienic service organs in connection with known cases of the disease, thus providing assistance to the work of the health services. What is imperative is consistent personal hygiene which represents a decisive barrier in the prevention of further spreading of the infection.

/Question 7 We thank you for the interview.

FRANCE

#### BRIEFS

CHOLERA IN TOULOUSE--A case of cholera was detected in Toulouse at the beginning of last week by a general practicitioner. The victim is a North African about 30 years old who returned from Algeria. According to Prof Armengard, chief of the infectious diseases service of Purpan hospital in that town, the patient is out of danger and all possibility of contagion has been eliminated. [Text] [Paris LE MONDE in French 25 Sep 79 p 48]

KAMPUCHEA

#### BRIEFS

KOMPONG THOM MALARIA ERADICATION CAMPAIGN—In cooperation with the Vietnamese delegation from Dong Nai Province, from 5 to 11 July health personnel in Kompong Thom Province distributed medicines for preventing and curing malaria to people in the province and especially in Stoung District. Among the 7,984 people who received those medicines 6,814 of them took preventive medicines while 1,170 others took curative medicines. [Phnom Penh Domestic Service in Cambodian 1100 GMT 7 Aug 79 BK]

#### PROGRAM SEEKS TO ERADICATE POLIO

Mulila PHILIPPINES DAILY EXPRESS in English 22 Sep 79 p 3

17. x17

A ROTARY International-assisted polio immunization program soon to be implemented in the Philippines will seek to eradicate this crippling disease of children in the next five years, local health authorities said yesterday.

Rotary International is appropriating \$760,000 for the purchase of vaccines which will be administered by the Rotary Organization of the Philippines through the World Health Organization and the Ministry of Health.

Approximately two million children between the polio-suceptible ages of three to 36 months are expected to be immunized annually.

By the end of five years, six million children would have been immunized, cutting out all means of infection by which other children could possibly be contaminated from the disease

The disease is contracted by children through a virus in the air or through the food they eat. The symptom is just a slight fever which parents are wont not to take too seriously.

THE IMMUNIZATION project of the Philippines is the first to be found to be deserving of a grant from the 3-H (Health, Hunger, and Humanity) program of Rotary International. The 3-H fund is now over US\$ 15 million from voluntary contributions of 18,250 Rotary organizations all over the world

The program was proposed to the Rotary International by Dr Jacinto Dizon, chief of health services of the Ministry of Health, based on a study on the high incidence of polio among Filipino children made by Dr. Sabino Santos of Malabon

The program was proposed to the international body in December 1978 and approved in May. 1979

ACCORDING to the latest statistics provided by the World Health Organization, the incidence of polio in the Philippines is 1 2 and 2.3 percent per 100,000 Filipino children.

It is also interesting to note that in 1977. 74 percent of the total deaths from polio among 32 countries in Western Pacific occurred in the Philippines

James Bomar Jr., president of Rotary International, will arrive on Sept. 28 to launch the project at the Makati Rotarian's Educational Development Center.

John Giles. PR Director of the international group, is here to lay the groundwork for the forthcoming visit of the Rotary International president.

C50: 3400

RAINY SEASON BRINGS RISE IN CHOLERA, OTHER DISEASES

Minita PHILIPPINES DAILY EXPRESS in English 22 Sep 79 p 7

Text7

THE MINISTRY of . 'th warned yesterday the public against diseases as it noted an increasing incidence of bronchitis, pneumonia, flu, gastroenteritis and cholers in Metro Manila and environs since the start of the rainy days this month.

The ministry's Disease Intelligence Center and the San Lazaro Hospital said the rise in the number of persons contracting these diseases can also be attributed to frequent changes in temperature.

SLH chief Cesar Uylangco disclosed that a total of 644 pasurnonia cases, 111 bronchitis cases, 49 flu cases, 578 gastro cases and 15 cholera cases were admitted into the hospital from Sept. 7 to 19.

Most of the patients, Uylangco said, were children from Metro Manila and nearby areas.

UYLANGCO said this sudden rise in cases of respiratory and intestinal diseases is due to the propensity of several people, particularly children, in taking a bath in the rain or in contaminated floodwaters as well as non-observance of the elementary rules on sanitation and hygiene.

He advised the public to observe cleanliness which, he said, is the best safeguard against these diseases. Another preventive measure, Uylangco added, is to get vaccination in nearby hospitals and health centers. (PNA)

Ci.: 5400

#### ANTHRAX CLAIMS FIVE LIVES IN MIDLANDS

Salasbury THE HERALD in English 6 (et 79 p 1

[Text]

#### QUE QUE.

ANTHRAX has killed at least five people in the Midlands and more than 120 have been admitted to hospital after becoming infected with the disease, most probably by rating or handling the meat of animals which have died from anthrax.

The chief animal health inspector for the Department of Veterinary Services in the Midlands, Mr Poter Benzon, told the Que Que Farmers' Association here yesterday that the five people Lad died in hospital and there was no way of telling how many others had died.

#### VACCINATING

The desease was rife, on added, in the Lower

Gwelo, Silobela and Zhombe Triba: Trust Lands, but had not spread much to the nearby commercial farming areas because cattle owners were vaccinating their animals.

Two cases had occurred in Amaveni in Que Que, and Mr Benzon suspected that while the tribal farmers had "finally got the message about eating infected carcasses" some vere selling the meat to people outside their area. Some farmers were

Some farmers were coming into Que Que with blood smears taken from dead animals and after receiving confirmation about anthrax were vaccination is 100 percent effective. Mr Benzon said, and cheap with 100 doses costing 68 cents.

He advised farmers to vaccinate once a year for five years instead of the usual three because the problems of the war meant it was difficult to inoculate all cattle.

Any animal or person could catch the disease and the only way of disposing of the carcase was to burn it completely. Mr Brnzon said it was vital that the carcase was not opened in any way and should be handled with public riloyes.

rutiber gloves.

Even if the meat was turned into biltong it could still carry the disease.

He urged all people in the area not to touch or buy meat — even if it was prepared — that they suspected might have come from an infected animal. He said it was impossible for a living person or animal to pass on the disease even if they were infected. Only a dead animal could do not be disease.

Mr Benzon said the only bright note about the infestation of anthrax were reports that terrorists were trying to steal the drugs needed to cure it. "Let's hope those bastards are dying from it too."

#### ANTHRAX TOLL REACHES THIRTEEN

Salisbury THE HERALD in English 9 Oct 79 p 2

[Text] The known human death toll from anthrax in Matabeleland and the Midlands is now 13. More than 370 people with the disease have been given treatment in rural hospitals.

A reliable source said coderday: "There is no doubt that many more people have died in the bush from anthrax."

Five people died in Loreto rural hospital in the Silobela Tribal Trust Land: four in Que Que hospital: and four, one of them yesterday morning in Nkai rural hospital.

Anthrax broke out in the Nkai Tribal Trust area of Matabeleland in January. Because of security problems in the area the problems in the area the cract number of stock dealers is not known.

"We think many more than 1000 cattle have died, and many gosts and sheep." a Department of Veterinary Services apokerman said.

"We believe the Mata-

"We believe the Matabel-land outbreak in moving towards the Lupane area."

Despite problems in mounting vaccination campaigns in security sensitive areas. 13 233 cattle were vaccinated by the Department's teams in January and July thin year. The vaccinations were carried

out in Nkai village and areas close to it.

Through a leaflet-drop by the District Commissioners' office some weeks ago, tribesmen have been urged to bring more cattle to collection points, for vaccir ating.

"V hen we hear that tribusmen are willing to bring their cattle along, we will arrange vaccinations in other parts of Nkai," the spokesman

#### 2 000 DOSES

In the past six weeks, 2000 doses of the vaccine have been bought by Nkai tribesmen who came into the department's offices in Bulawayo, the spokesman said.

"The vaccine is very cheap and gives immunity for at least one year, prohably much longer," he said.

Anthrax spread from the Nkal district into Lower Gwelo, Slibbela and Zhoenbe Tribal Trust lands, and many cattle in those areas have died, the senior animal health inapector for the Midlands, Mr Peter Benzon, said.

There were no reports of the disease in the Gokwe district north of Nkai, but the department of veterinary services cannot get into the area to check animals.

It is tracing the spread of the disease by the human cases, he said.

The contamination can last for years, the spokes-man said. Any warfs-blooded animal ran contract anthrax. Any person or other animal that eats anthrax-infested flesh will get the disease. It is also spread to humans by breathing in the anthrax spores, he said.

The Provincial Medical Officer of Health for the Midlands, Dr I. M. Campbell, said that by the end of September there were 260 recorded cases of antirax among people in his province.

Another source said that up to the end of July, 116 people with anthrax were being treated in Nikai.

#### ENCEPHALITIS CASES AND CHOLERA THREAT REPORTED

Seoul THE KOREA HERALD in English 8 Sep 79 p 8

[Text]

Two more genuine encephalitis cases have been newly reported from Poryong, Chungchong Namdo and Patcheju, Cheju-do, the Ministry of Health and Social Affairs said vesterday.

said yesterday.

With the two, the number of genuine encephalitis cases

genuine encephalitis cases rose to three as of yesterday. The ministry identified the two as a 7-year-old boy in Kwanchang-ni, Chupo-myon, Poryong-gun, being treated at Poryong General Hospital and a 12-year-old girl in Sehwa-ri, Kujwa-myon, Pukcheju-gun, at Tongil Hospital in Cheju City.

City.

It said a total of 157 suspected encephalitis cases have been reported to the ministry as of yesterday morning and 13 of them died without confirmation on the diseases. Fourty-two recovered and 162 are being treated at hospitals.

without confirmation on the diseases. Fourty-two recovered and 102 are being treated at hospitals.

Last year, 369 suspected cases had been reported as of the same day and 17 of them were genuine cases. In 1977, 191 cases had been reported with 13 of them being genuine

Ministry officials said the comparatively low figure this year might be attributed to the fact that many of mosquito larvae were swept away by the heavy rain last month and

the cool weather conditions these days.

However, they said, the summer epidemic diseases is forecast to continue to break out until October this year and people are required to be careful not to be infected by it for the time being.

Cholera Threat
Quarantine officials were
instructed to go on alert
yesterday against possible
transmission of cholera into
the country, in line with the
recent report from the Korean
Embassy to Japan that a
Japanese man who has never
been to foreign countries is
suffering from the disease.

Japanese man who has never been to foreign countries is suffering from the disease. The Ministry of Health and Social Affairs instructed the officials in the 13 quarantine offices in harbors and airports to reinforce the checks on passengers and their possessions.

possessions.

According to the report by the embassy to the ministry, the Japanese government posted a warning against cholera in Kyushu as a man in his 50s in Okayama Prefecture started to show the cholera symptoms just after he came back from Kyushu. He was confirmed as a genuine case by the Japanese health authorities.

FUND FOR TYPHOID PATIENTS -- The Ministry of Health and Social Affairs yesterday decided a project to find out typhoid patients. As its first step, it plans to conduct a health examination of 700,000 people across the nation next year with a cost of 70 million won. Ministry officials said the decision was made to uproot the epidemic disease. They said though it is no more a vital disease, the disease has been widely spreading among the people through the four seasons. The first health examination is planned to be conducted for 700,000 people living in 20 countries with high typhoid outbreak rates or with poor sanitary conditions during May-October in 1980. Those who are found to be infected by the epidemic disease will be issued patient cards so as to benefit from medical treatment provided by the government until they get well. The ministry is now conducting a demonstration survey on typhoid patients in three counties including Andong, Kyongsang Pukto, Hwasun, Cholla Namdo and Hwasong, Kyonggi-do during May-October this year to collect the basic data needed for the project. Typhoid is a water-borne epidemic disease and communicated through drinking water or foods. [Text] [Seoul THE KOREA HERALD in English 8 Sep 79 p 8]

MALARIA IN CIUDAD BOLIVAR-Ciudad Bolivar, 6 Sep--As the result of the intensive rains which fell in the Guaniamo and Chiguao areas, Cedeno District, several cases of malaria have cropped up, according to reports received in this city's Malariology Service. It was learned that the Caicara del Orinoco Health Center had treated five cases, two in the "Ruiz y Paez" Central Hosp tai, Ciudad Bolivar, and two more in the San Fernando de Apure Hospital. De Oswaldo Godoy, regional health commissioner, reported that his office has stationed one doctor and one paramedic in the regions most affected by the rains and floods. They are administering inoculations and supplying medicines to the miners and native peoples living in the seriously damaged areas. Dr Godoy revealed that in the Cuchivero region, where there were dozens of disaster victims because of flooding by the river of the same name, isolated cases of malaria had appeared; however, at no time was there a question of an alarming situation, although the emergency continues because of the conditions in which the inhabitants find themselves as the result of the destructive action of the floods. [Text] [Caracas EL UNIVERSAL in Spanish 7 Sep 79 p 2-29] 8143

#### ANTI-CHOLERA MEASURES DESCRIBED

Official Discusses Rules of Hygiene

Kinshasa ELIMA in French 6 Sep 79 p 5

[Article by Kambidi Tabala Mosasa: "Is Cholera Returning?"]

[Text] The exceptional measures taken by the country's pertinent authorities illustrate their concern for helping cholera victims recover their health so they may contribute positively to the great work of national reconstruction.

Concerned in the large-scale fight that has been activated against the cholera vibrio, Dr Vanhercke, in his capacity as medical coordinator in charge of community medicine programs in Ecuador, met recently in the conference room of Cebec-Ipeko with all the principal health leaders, to whom he presented some ideas on cholera.

"As our spokesmen to the population in the health dialog begun eight weeks ago throughout the urban areas by Air Zaire and Ipeko, the details I am about to furnish you on this disease will be our verbal remedy for those close to you. We hope the remedy will remain a part of the daily occupations of the population, that the disease may be prevented by strict observance of the preventive measures that take first place, before curative care." Continuing his introduction, Dr Vanhercke said that cholera does not tend to be epidemic, because the few recorded cases are coming only from along the Zaire River, where those who live on the banks drink river water without boiling it. While in the urban towns the rules of hygiene seem to be well observed and the population is not affected. In this case the question is how to get them (city dwellers) to strengthen the application of the first rules of health: wash the hands before eating anything at all and after going to the bathroom, eat only food that has been thoroughly heated. In this perspective the cholera microbes, which are fragile, can be warded off.

Getting to the heart of the matter, our speaker revealed that cholera is a disease caused by an aquatic microbe called the cholera vibrio. Stained for microscopic viewing, the germ takes the form of a comma (,). Its survival time is very short--two to three days, because it does not support life.

The disease is transmitted from one person to another. The mouth acts as intermediary between the hand and the intestine. In the latter organ cholera vibrios will increase with extraordinary speed and immediately begin a veritable exptying process, thus rendering the mucous membrane permeable.

The spectacular symptom of cholera, he went on, is a severe diarrhea followed by vomiting. In less than three hours the affected person loses a large quantity of human fluid (10 to 15 liters). To sum it up, the patient becomes dehydrated.

Vaccination, the regional medical coordinator made clear, is of secondary importance, inasmuch as the vaccine is 50 percent beneficial and lasts only three to six months. What is important is to be clean, that is to follow the rules of hygiene to the letter. Quite simply because the healthy carriers are very dangerous at the point where they are never sick, but are capable of contaminating. It is also good, he added, to quarantine the chikuange [translation unknown] from cholera-infested areas intended for city dwellers for whom that commodity is the basic foodstuff, and who consume it without reheating it. During that period [of transit] the vibrios--if there are any present--spread easily because they are not in their usual habitat.

#### Strengthened Measures

Kinshasa ELIMA in French 9 Sep 79 pp 1, 7

[Text] The measures for preventing epidemics, such as those recently taken by the capital's urban commissioner, are beginning to take shape.

That is how it happened that in the Kinshasa area, in accordance with the commission's instructions, the urban refuse collection service, at the request of the area's authorities, is already taking part in unblocking the gutters along the main arteries of the area.

The Kinshasa area commissioner, Citizen Mboyo Eyamba, indicated on this subject that it was chiefly in expectation of the rainy season that he solicited the agreement of the "City Refuse Disposal" for this work, with a view to preventing the stagnant water that constitutes one of the main sources of epidemic diseases.

The execution of the work, Citizen Mboyo stated, conforms to the instructions of the urban commissioner, recommending that the capital's area commissioners ensure respect for the rules of hygiene in their respective jurisdictions, in order to prevent endemic diseases.

The contribution of "City Refuse Disposal" within this framework being merely extra help, the area, he said, has made sufficient manpower available to that service.

The Kinshasa area also being located in the center of the capital, the work's priority was oriented toward the arteries, making it possible to establish the boundaries of the Kalamu, Kasa-Vubu, Barumbu and Lingwala areas on the one hand and those of the Gombe area on the other.

This is why at the present stage Rwakadingi, Kasa-Vubu, Marche and Plateau Avenues are already benefiting from this action.

8945

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MEASLES KILLS TEN--Ten children under five years died in a week in Chief Musaka's area near Solwezi after an outbreak of measles, regional secretary Mr Yabo Shamambo said yesterday. The number of deaths was likely to rise if nothing was done to remedy the situation, he said. Mr Shamambo urged a meeting of more than 350 villagers to take their children to the health centre as soon as symptoms showed, and not to apply herbs. - TANA [Text] [Lusaka TIMES OF ZAMBIA in English 23 Sep 79; 1]

TSETSE RESEARCH PROJECT -- Proparatory work for the Kl million research programme to be carried out during the next dry season to develop international techniques in the tsetse fly control in Africa is going on smoothly, it has been reported. The project is sponsored by the Food and Agriculture Organisation and the United Nations Development Programme. Dr David Baldry, director of the project called "Tsetse Applied Research and Training," said in Lusaka that field and experimental bases were now being set up. The project is expected to last two years. Dr Baldry said theoretical work would be conducted at the Zambia Institute of Animal Research and Practical Work at Mumbwa where a field base had been established. The objective of the project was to find techniques to tackle tsetse flies at international level because at the national level the problem had been ineffective. This was because the flies, crossed frontiers and returned afterwards, he said. Zambia is expected to benefit from the results of the project because onethird of the count y or about 250,000 square kilometres is shut out to human usage because of the tsetse menace. [Text] [Lusaka TIMES OF ZAMBIA in English 23 Sep 79 p 3]

CATTLE VACCINATION--Within the framework of cooperation and solidarity between the governments of Angola and Algeria, a team of Algerian veterinary technicians assisted by the Ministry of Agriculture department in charge of cattle operations conducted a prophylactic campaign during which approximately 2,000 heads of cattle belonging to the Planalto de Camabatela agricultural complex were vaccinated; this was necessary for the healthy development of the herds and will help avoid sickness among the herds which will be imported. The campaign included vaccination against foot and mouth disease, tuberculosis and brucellosis. The Algerian technicians returned to their country after a six-week stay in Angola. [Excerpts] [Luanda JORNAL DE ANGOLA in Portuguese 22 Sep 79 p 3]

FOOT-AND-MOUTH DISEASE--On 15 August, upon learning that the people's domestic animals in [Tasseng] Vang Vieng Canton, primarily oxen and buffaloes were seriously afflicted with need and mouth disease, the veterinary cadres of [Meuang] Vang Vieng District, Vientiane Province, urgently sent a number of its cadres, medicines and syringes to promptly suppress this epidemic. As of now, by attentively carrying out their duties, they were able to successfully suppress this disease. They cured 12 oxen and 230 buffaloes which had been suffering from this disease and also vaccinated more than 500 oxen and buffaloes against this disease. At present the [Meuang] Vang Vieng veterinary cadres are continuing to carry on with the vaccination of their domestic animals and are guiding the owners of the animals to pay attention to the care of the animals according to new scientific principles, primarily in the cleaning of the livestock pens, feeding the animals and in doing a good job of smoking out gnats and mosquitoes.

[Text] [Vientiane VIENTIANE MAI in Lao 7 Sep 79 pp 1, 4]

#### TOTAL LOSSES FROM FOOT-AND-MOUTH EPIDEMIC

#### Kuala Lumpur NEW STRAITS TIMES in English 30 Aug 79 p 24

[Text]

PORT KLANG, Wed.

The Government is importing 3,200 head of cattle costing \$3.7 mil-lion to replenish the stocks of farmers hit by the recent outbreak of the foot-and-mouth disease.

It is hoped that this move will give a new lease of life to the local livestock industry.

Ashipment of 902 cows arrived today at the North Port here.

arrived today at the North Port here.
Deputy Agriculture Minister Datuk Haji Zakaria Haji Abdul Rahman said the cattle would be distributed throughout the country to farmers affected by the epidemic.
He was speaking to reporters on board the Helene Clausen, the freighter which brought the 802 cows (between six and 24 months old) from Townsville, Queensland, Australia.

Australia.

Veterinary officers Datuk Dr Kadin Shukor

purpose.

#### Epidemic tell

Datuk Haji Zakaria said: "A number of these cattle are to be given to small farmers whose livelihood have been hadly affected by the outbreak at the end of last year and early this year. "As a result of the epidemic, 7,511 head of cattle, 1,109 buffaloes, 3,746 goats and sheep and 5,751 pigs were destroyed, and compensation totalling \$4,548,000 were paid to farmers at market prices."

Datuk Haji Zakaria said the outbreak had badly affected the live-

According to Agriculture Ministry officials, half of the cows are in calf and they will used for a living were hit hardest.

Actificial insemination will be used for the others when they have been distributed to local farms for the same purpose.

According to Agriculting their fields or who were totally dependent on cattle and pig rearing for a living were hit hardest.

He said: "The Government's efforts to eradicate poverty and raise the living standard of farmers and increase meat and milk prod-

for a living were hit hardest.

He said: "The Government's efforts to eradicate poverty and raise the living standard of farmers and increase meat and milk production were also impeded by the epidemic.

"The Government intends to help these farmers to start all over again and also to improve the quality of our livestock."

The Government, he added, would import 3,500 more head of diary cattle of the Frieslan-Sahiwal breed in addition to the 2,263 head received so far this year.

A shipment of 717 head of cattle arrived here on July 18. Three more shipments are expected to arrive next month and in October.

Datuk Zakaria said all the 802 head selected by Datuk Dr Kadin in Queensland survived the voyage.

VOYAGE.

AFRICAN SWINE FEVER OUTBREAK—Salisbury—The sale of pigs in Mozambique's central province of Sofala has been banned and restrictions placed on the transport of pigs to combat an outbreak of African swine fever in the province, according to Radio Mozambique. The State-run radio said a meeting was held in Beira on Saturday during which hotel workers were instructed on how to minimise the effects of the outbreak. Pigs may no longer be transported from Beira to other parts of Mozambique. A few months ago South Africa was blamed for the outbreak in the southern province. Swine fever is usually transmitted to domestic pigs by wild pigs, who carry the disease, and is highly infectious, often resulting in deaths.—Sapa. [Text] [Johannesburg THE CITIZEN in English 8 Oct 79 p 10]

#### CATTLE DIE FROM BLACKLEG DISEASE

Lusaka TIMES OF ZAMBIA in English 27 Sep 79 p 2

[Text] MORE than 20 cattle have died within weeks in Central Province following an outbreak of "blackleg" disease.

Confirming the outbreak in Kabwe yesterday, senior live-stock officer, Mr Francis Sibanze, urged farmers to innoculate their cattle aged between three months and three years against the disease to avoid more deaths.

He said the disease was highly infectious but not contagious. It spreads "very fast" and the most affected areas were Kabwe, Chisamba and Mumbwa.

Mr Sibanze said that 14 cattle died in Muswishi area in Kabwe Rural, two at Mukobeko maximum prison.

three at Chibcmbo and three at Malawo ferm within a month. He added that several others were sick.

"The presence of this deadly disease also known as "quarter evil" is attributed to hotter months this time of the year," he said. Mr Sibanze explained that

because of the disease cattle developed high fever, depression and loss of appetite. Swellings of the upper thigh or shoulder were typical characteristics of the disease.

"Crepitation due to gas formation develops later and when touched a gas-like sound is heard. Death occurs within a short time," he said.

He recommended that a "blackleg vaccine" would control the disease although Would sulphur drugs with antibio-tics could be used in the second stage.

Mr Sibanze also expressed satisfaction that "lumpy skin disease", which was prevalent in the area during the early months of this year, had been controlled and animals were safe.

He, however, regretted that Kabwe district was still experiencing a rabies outbreak and warned dog owners to tie up their animals because those found roaming would be killed.

He added that the longawaited rabies vaccine was available and urged dog owners to take their animals to the nearest veterinary offices for vaccination.

PESTS IN PHON HONG—At the end of August three agricultural cadres of [Meuang] Phon Hong District, Vientiane Province brought 870 kilograms of (Malasong) [?Malathion] and (Kamesan) pesticides and a number of sprayers to join with the farmers of [Tasseng] Nalao and Na Pho in which caterpillars and aphids were destroying the rice fields. They successfully sprayed more than 20 hectares. Aside from that they aslo sprayed 400 hectares not yet afflicted with pests in order to see to it that the pests don't breed. The agricultural cadres of that district also guided farmers to pay attention to their rice fields, primarily in weeding, fertilizing and repairing irrigation works to insure water supply. This is to insure great victories in the harvest at the end of this year. [Text] [Vientiane VIENTIANE MAI in Lao 11 Sep 79 p 1]

PAK OU PESTS—Since June, the Agriculture Department of [Meuang] Pak Ou District, Luang Prabang Province has sent technical cadres to join with the administrative authorities in the production base areas to spray insecticides to kill plant pests which are steadily destroying the rice plants and crops of the people. During that time they sprayed insecticides and put out poison to kill field rats, caterpillars, grasshoppers and others, using more than a ton of material. They were able to salvage upland and paddy rice and crops on 179 hectares which were being destroyed by pests. Presently, these cadres are diligently and promptly continuing their spraying of insect pests to help the people. [Text] [Vientiane KHAOSAN PATHET LAO in Lao 7 Sep 79 pp A3, 4]

#### LOCUST PEST SPREADS INTO KUDARAT

#### Munita BULLETIN TODAY in English 19 Sep 79 p 39

To xt7

COTABATO CITY, Sept, 18—Locusts which were earlier reported to have infested hundreds of hectares of ricelands in North Cotabate have sprend to the adjacent province of Sultan Kudarat.

Sultan Kudarat provincial plant industry officer Felix C, de la Cruz told the Ministry of Public Information that an undetermined number of hectares of corn and rice fields in the province had been found heavily infested by thousands of the winged pest.

De la Cruz reported that badly damaged farms were located in the barangays of Tina, San Emmanuel, and Rarus in Tacurong town and the barrios of Banawag Central Mangilala, San Pedro, and Suben of President Elpidio Quirino municipality.

De la Cruz said the average population density of the locusts in the affected areas was estimated at two to three hoppers and one to three fliers per square meter.

The provincial plant industry officer said that to check the spread of the locusts, lie had dispatched to the infested communities a task force of seven teams composed of plant technicians and members of various harangay pest patrol surveillance groups.

veillance groups.

De la Cruz warned farmers of adjoining municipalities to be on close lookout for the locusts

Late last month, the MPI reported locust infestations in several towns of North Cotabato which resulted in the destruction of close to 250 hectares of rice. corn, and coconut fields, (T. Pe. Rimando)

#### NEW VIRUS ATTACKS PAPAYA, ENDANGERS PAPAIN INDUSTRY

Caracas EL NACIONAL in Spanish 11 Sep 79 p C-8

[Interview with Dr Ramon Lastra, IVIC researcher, by Asdubral Barrios, date and place not given]

[Text] A new virus has made an appearance on national papaya plantations and its identification is being studied by IVIC [Venezuelan Institute of Scientific Investigations] researchers.

Up to now, it has only been found in Zulia crop areas where its destructive action was reported during a recent microbiology congress. It was said there that a mysterious disease had ruined 70 of the 300 hectares of a papaya plantation. Dr Ramon Lastra, of the IVIC, was notified and he immediately began to study the problem.

In 2 weeks, with the help of an electronic microscope, he discovered that a new virus, unknown up to now in world phytosanitary literature, was involved.

"Papayas are now being grown in Zulia," Lastra said. The Ciarzu agronomy engineer, Eduardo Quintero, acknowledged the importance of the problem and invited me to visit the affected areas.

Lastra is in charge of the IVIC plant virus laboratory. He has all the resources needed to identify microorganisms which attack corn, tomatoes, potatoes, garlic, papaya and other tropical fruits.

The virus which is now occupying his attention is destroying his favorite fruit by attacking its top and, even though it permits the plant to bud, the fruit is destined to wither.

In his laboratory, identification was also made of the virus which causes striped dwarfism of corn, the yellowing of tomatoes and annulation of papayas. The latter is widespread in the central region.

"On the other hand, the virus we have identified in Zulia is possibly native to that region."

[Question] How do you account for the preference of one region over another?

[Answer] "That depends upon the vector insect. The annulation virus of the papaya is transmitted by a plant louse and the other virus possibly by a small cicada which has the form of a butterfly."

He is not yet certain that such is the case. However, his suspicions are based on the fact that the new virus is related to the virus which causes striped dwarfism in corn. And the latter is transmitted by that frisky insect.

[Question] What is the economic importance of the virus you have discovered?

[Answer] "It is keeping the producers of Zulia papayas on their toes as they attempt to increase the crop in that region. I understand that a papain industry is paralyzed because of this."

Papain is a vegetable enzyme obtained from green papayas which is used as a raw material in the manufacture of detergents. It is also a natural meat tenderizer.

Lastra is a young scientist who has been working on phytopathological studies for 15 years. University students and technicians in this field learn about such things in his laboratory.

"Our mission is to look for diseases which affect crops in Venezuela and the method of combating them. In the case of viruses, there is no possible cure. There are, on the other hand, methods of preventing them.

[Question] How is this done?

[Answer] "By studying varieties resistant to These microorganisms and combating insects which are vectors of diseases, among other things."

Lastra and his team have succeeded in discovering in Venezuela numerous diseases of the tomato, potato and other important national crops.

He was the promoter of the first postgraduate course taught in the country in the phytosanitary sector, a course which is being given at the Central Western University.

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#### 'SCORCHING' MITE ATTACKS TOMATO CROP

Caracas EL UNIVERSAL in Spanish 9 Sep 79 p 1-14

[Text] Cagua--A new pest identified as the tomato "scorching" mite [tomato russet mite] has been detected in Venezuela by agricultural engineers Mario Cermeli, Lucas Van Balen and agricultural-livestock expert Oscar Cedeno, all of whom are experts in the Vegetable Program which the Farmer's Foundation Service (FUSAGRI) has been conducting from the Cagua Experimental Station, under the auspices of the Ministry of Agriculture and Livestock.

These agricultural experts examined samples of infested plants from Rio Tocuyo Edo, Lara, La Encrucijada, the Santa Cruz Experimental Station, the "La Mucura" settlement in Aragua State and the "El Cenizo" Irrigation System, Trujillo State with positive results as regards the presence of the above-mentioned pest in the country, which has the characteristic of being invisible to the naked eye and causing damage to tomato farms to the point of leaving them as if they had been burned by fire.

The tomato russet mite, whose scientific name is Acolops lycopersici (Masse), grows in temperatures of 25.6° centigrade and relative humidity of 30 percent. Its principal hosts are the nightshade family of plants, with the tomato as its preference to the point of total elimination.

#### Symptoms:

The above-mentioned FUSAGRI experts, who are also successfully studying the alternatives for the chemical control of this pest, say that when attacked by this mite, the stalk, branches and leaves of tomato plants turn brown in color. The growth of small plants is retarded; and in adult plants, the fruit atrophies and the foliage dries completely.

Finally, at the Cagua Experimental Station, it was learned that this pest appeared for the first time in New Zealand and Australia, spread throughout the world and is now found in Venezuela. It was also learned that agricultural engineer Mario Cermeli, PhD in entomology, with the collaboration of Prof Ernesto Doreste, of the Faculty of Agronomy, Central University of Venezuela, is preparing a study on the appearance of this agricultural pest in Venezuela, which will be published in the near future.

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VIETNAM

#### BRIEFS

LEAFHOPPER INFESTATION--According to the plant protection department, since late September, brown leafhoppers have developed in many areas in Ha Son Binh and Hai Hung provinces and in Hanoi and Haiphong, where the early 10th-month rice is forming ears. The density of leafhoppers is relatively high-from 4,000 to 15,000 l-year-old or older leafhoppers per square meter. In addition stemborer larvae are spreading. All kinds of chemicals used to control brown leafhoppers and stemborers are now sufficiently available. Therefore, the agricultural material supply sector must join all localities in satisfactorily delivering these chemicals and other equipment as soon as possible to areas which need them. [Hanoi Domestic Service in Vietnamese 1100 GMT 30 Sep 79 BK]

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